



**AMPEX**  
SOLID STATE  
**AG-350**

*Introducing...*

**The New, World Standard in Professional Audio Recording**





# AG-350

## A NEW ADVANCED GENERATION OF THE FAMOUS 350 SERIES

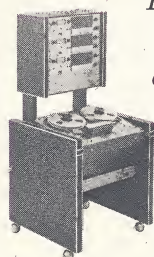
*With over 12 years of proven professional service behind it, the 350 Series has become the unquestioned*

### **World Standard of Professional Audio Recorders**

*There are over 18,000 Ampex 350 Series recorders in use throughout the free world — many with more than 90,000 hours of logged time.*

*The new solid state AG-350 will begin a new era for this famous Series. Evolving from the three year research and development program that produced the new Ampex MR-70 Master Recorder\*, it incorporates **new features, new operating convenience, plus proven performance and reliability.***

*The price range plus a variety of model configurations serve the operational and economic requirements of the broadcast industry or other professional users.*



*\*The new Ampex MR70 Master Recorder (\$4500 to \$9000) is the ultimate in master recording for the major recording studios throughout the world.*

## TAPE TRANSPORT FEATURES

- 1 **RETAINS FAMOUS, TIME-PROVEN 350 SERIES TRANSPORT FEATURES** of previous 350 Series, plus new features designed for greater operator convenience.
- 2 **AUTOMATIC EQUALIZATION** . . . switching is done automatically when tape speed is selected.
- 3 **RIGID TOP PLATE** . . . maintains precision alignment of all mechanical components even after years of heavy-duty use.
- 4 **DIRECT DRIVE CAPSTAN** . . . machined to exacting tolerances to guarantee accurate tape speeds.
- 5 **CAPSTAN IDLER** . . . accurate traction pressure is maintained through positive solenoid control. Idler disengages automatically when power is shut off (at end of reel or in case of power failure) to eliminate possible flat spots on idler pulley.
- 6 **IDLER PULLEY** . . . has heavy-mass flywheel to provide essential filtering. This, plus precision capstan assembly and hysteresis synchronous motor, holds wow and flutter to absolute minimum.
- 7 **TAKE-UP TENSION ARM** . . . designed to eliminate tape "bounce" in fast starts, and gives even, smooth tape wrap on take-up reel.
- 8 **PUSH BUTTON CONTROL PANEL** . . . large relay/solenoid actuated pushbuttons logically and sequentially placed, add to ease of editing and cueing. Fully remote controllable.  
**Rewind** . . . gentle, smooth tape handling even at fast wind speeds. Rewinds 2400 foot reel in one minute.  
**Fast Forward** . . . can be used with rewind button to "rock" tape for fast editing or cueing without spilling tape. Buttons are electrically interlocked to prevent damage or jamming.  
**Stop** . . . stops tape motion in 0.13 second (from play/record mode) . . . essential to tight program cueing and special effects.  
**Play** . . . tape achieves accurate playing speed in less than 1/10 second . . . essential to tight programming and special effects.
- 9 **REEL SIZE SWITCH** . . . automatically adjusts correct tension for 10½ inch or smaller reels.
- 10 **QUICK-RELEASE HOLD-DOWN KNOBS** . . . provide firm grip and have self-locking feature to assure easy, fast loading and unloading.
- 11 **TAPE SPEED SWITCH** . . . selects the fast or slow speed of the recorder and automatically switches electronics for proper equalization.  
**BRAKES** . . . self-limiting design, factory-set to eliminate the possibility of exceeding the elastic limit of the tape. Stainless steel drums provide long wear and reliability.



## ELECTRONICS FEATURES

**100% SOLID STATE DESIGN** . . . cool operating, low power consumption. Plug-in transistors are standard types, readily available and easily changed.

**EASY ADJUSTMENTS** . . . all necessary adjustments can be made right on the front control panel. 12

**PLUG-IN EQUALIZERS** . . . are used throughout the recorder and save time in maintenance. 13

**LOW FREQUENCY ADJUSTMENT** . . . now you can easily make new low frequency reproduction equalization adjustments. 14

**SMALLER ELECTRONIC PANEL** . . . panel measures only 5¼ x 19 x 8½", smaller than the previous 350 by 1¾"; saves rack space. 15

**LARGE VU METERS** . . . accurate, easy to read for better recording. 16

**SINGLE RECORD BUTTON** . . . for one or two channels for operating speed and convenience. 17

**RECORD/SAFE SWITCH** . . . with ready light for operator convenience at remote location. 18

**LOCKING-LEVEL KNOB** . . . "Locks" on both record and reproduce level. Eliminates accidental level changes. 19

**ACCESSORY SOCKET** . . . for plug-in matching or bridging transformer, or mike pre-amp. (Rear of chassis.)

## HEAD ASSEMBLY FEATURES

**HEAD GATE ASSEMBLY** . . . gate opens wide for easier editing, cleaning and threading. 20

**NEW ERASE HEAD** . . . ferrite type erase head improves erase characteristics. 21

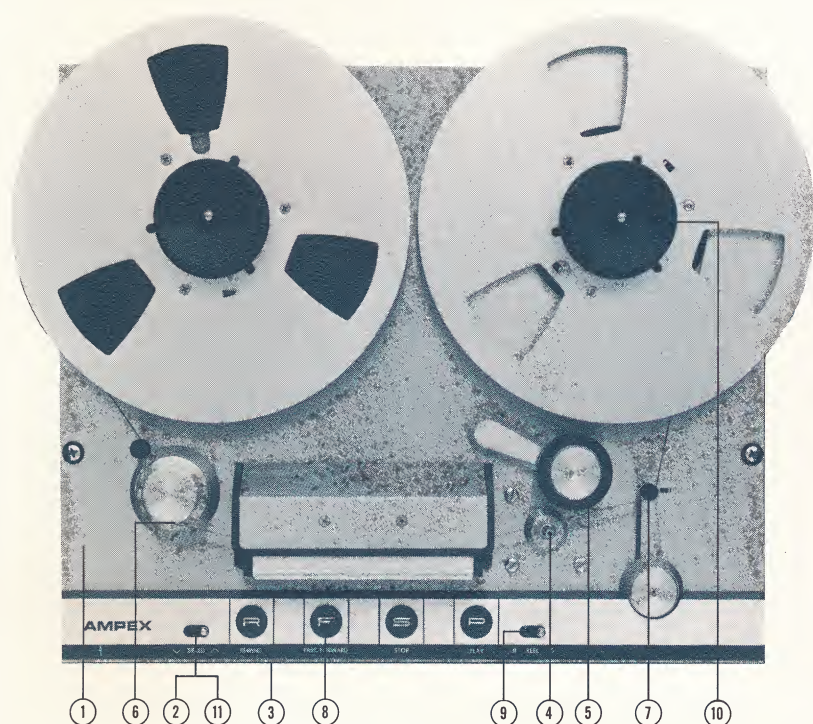
**RECORD AND PLAYBACK** . . . heads individually mu-metal shielded for maximum hum rejection. 22

**GLASS TAPE LIFTERS** . . . non-wearing. Permit "touch cueing" to locate material in fast forward or rewind. 23

**STRAIGHT LINE TAPE PATH** . . . easy tape threading. 24

**HEAD ADJUSTMENTS** . . . positive, self-locking azimuth and zenith adjustment. 25

**HEAD ASSEMBLY EASILY REMOVABLE** . . . simply remove four screws and unplug head cable.



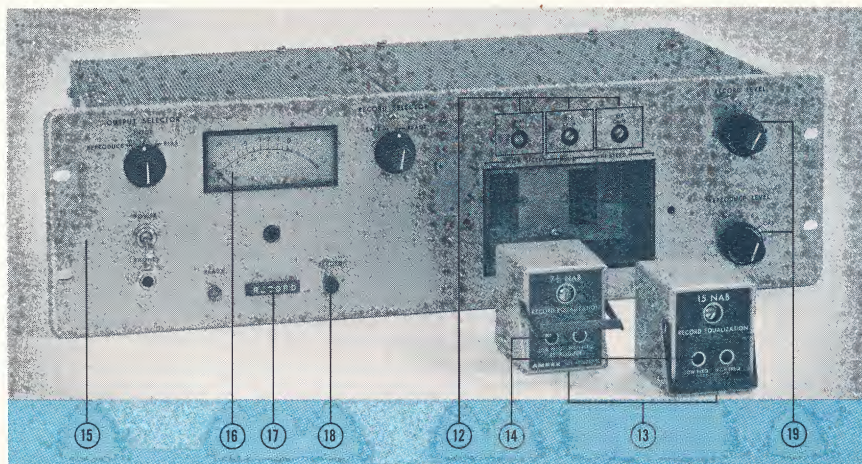
## PRECISION TAPE TRANSPORT

*The mark of a truly professional recorder is its ability to perform within required specifications under heavy-duty use and years of service.*

*Experience shows that the tape handling mechanism (tape transport) accounts for 2/3 of a recorder's performance. In most recorders, the performance and specifications (wow, flutter, timing, etc.) deteriorate after the unit is in service due to wear and aging of the mechanism. However, the precision with which the Ampex 350 Series and the new AG-350 Series are built reduces wear to absolute minimums — and, what small amount of wear does occur after years of use, is easily adjustable to original specifications.*

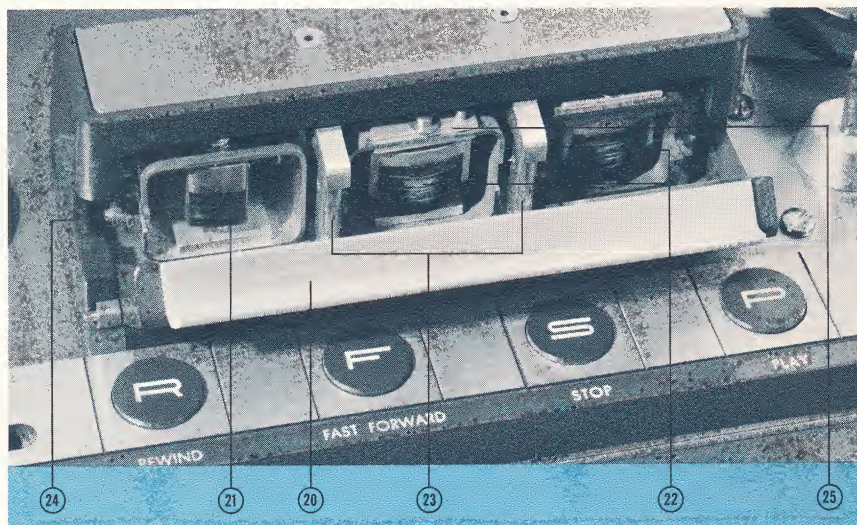
*With normal preventive maintenance the AG-350 will continue to operate within its published specifications not just during the first twelve months, but for the entire life of the recorder. In every sense it is heavy duty, and trouble free . . . but still easy to operate for the many professional requirements in industry, business, education, medicine and government.*





## SOLID STATE ELECTRONICS

*The thousands of man hours expended in transistor research for applications in Ampex sophisticated computers, instrumentation and television recorders, was utilized in the electronic design of the new AG-350. Its 100% solid state circuitry takes maximum advantage of the capabilities and reliability inherent in transistors.*



## HEAD ASSEMBLY

*Ampex Professional Audio heads are world renowned for their unmatched performance and long life. This technical mastery is exclusive with Ampex, and is based on over 15 years' experience in the precision manufacture of heads for Professional Audio, Instrumentation and Missile recorders.*

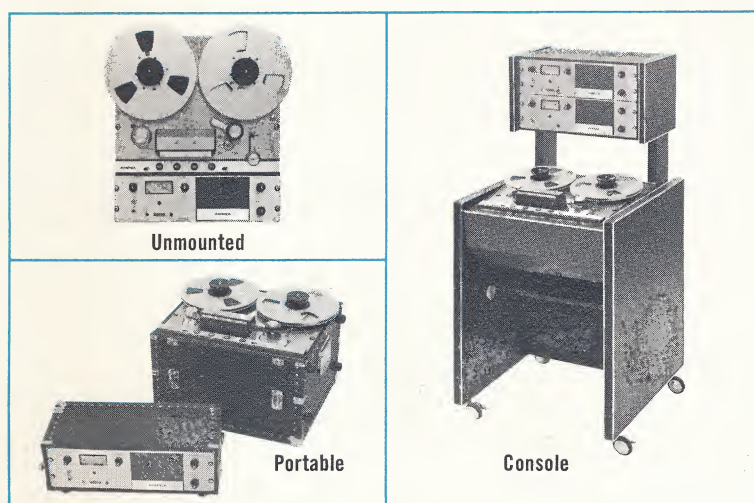
*Ten thousand hours is usually considered "good" head life. Ampex heads that have been in use for over 15,000 hours are still giving the same high performance as when they were new. There are reported cases where Ampex heads have over 36,000 hours of use and are still performing within the published specifications.*



## CONVENIENT MODELS FOR ALL PROFESSIONAL RECORDING

*The four basic AG-350 models, covering all monophonic and stereo recording and playback requirements, provide the complete flexibility and convenience needed in professional recording.*

*AG-350's are available in console, portable and unmounted versions as shown below, and with your choice of 3 3/4-7 1/2 ips, or 7 1/2-15 ips. Your experienced Ampex distributor will assist you in selecting the proper model and mounting which best suits your individual requirements. (Prices range from \$1350 to \$2700.)*



### MODELS AVAILABLE:

- |                 |  |
|-----------------|--|
| <b>AG-350-1</b> | <b>Recorder/Reproducer</b><br>(Mono — available in console, portable, and unmounted)   |
| <b>AG-350-2</b> | <b>Recorder/Reproducer</b><br>(Stereo — available in console, portable, and unmounted) |
| <b>AG-355-1</b> | <b>Reproducer</b><br>(Mono — available in console, unmounted)                          |
| <b>AG-355-2</b> | <b>Reproducer</b><br>(Stereo — available in console, unmounted)                        |

**Universal Series:** *For world-wide applications, models AG-350-1, AG-350-2, AG-355-1, and AG-355-2 are available in UNIVERSAL models. They contain a built-in adjustable multi-tapped power transformer, permitting different input line voltages in the range from 90 to 130 volts and 200 to 240 volts, operating on virtually any of the world's standard line voltages with no need for external step-down transformers.*

*Prices and catalog numbers of all AG-350 versions on price sheet #1821 B.*

## APPLICATIONS FOR PROFESSIONAL RECORDING

The confidence placed in the Ampex 350's by professional recording personnel throughout the world has made it the dominant recorder for all professional applications where quality, reliability, economy and low maintenance are strict requirements:

- BROADCASTING
- RECORDING STUDIOS
- INDUSTRY (for acoustic research, vibration analysis, quality control)
- MEDICINE (for research, analysis, therapy)
- EDUCATION
- RELIGIOUS ORGANIZATIONS
- BUSINESS
- GOVERNMENT AND DEFENSE

The new Ampex AG-350 is your assurance of maintaining professional recording excellence whatever your recording requirements.



## ACCESSORIES

**MX-10 MIXER**, 4-position, 2-channel . . . compact professional mixer for two-channel stereo and monophonic recording. Four mixing positions accept up to four low-impedance microphone inputs or two low-Z microphone inputs and two line inputs. Switching control for each input permits feeding input either to the left or right, or split to feed equally into both channels. Ideal for "center solo" stereo recording techniques. The two-channel facilities are also excellent for monophonic applications where one channel is required for program and one for cues or other information. For more inputs, two or more of these mixers can be coupled, with overall master gain controlled by the last unit in the coupling.

**REMOTE CONTROL** . . . Greatly expands use of recorder, allowing operation from two or more locations. Duplicates all functions of record, play, fast forward and rewind. Indicator lights show whether recorder is in "play" or "record" mode. The remote control's "record" button will not function when the record selector is in "safe" position. This prevents accidental erasure. Available as a boxed unit with 30-foot cord, or as a flush-plate unit for mounting on a control panel.

**PLUG-IN EQUALIZERS** . . . Interchangeable units provide NAB or CCIR curves appropriate to tape speed used. Equalizers for other curves (to meet special requirements) available on special order.

**PLUG-IN INPUT UNITS** . . . Interchangeable units match various inputs such as zero loss transformer for balanced bridging, single unit switchable 40 or 60 db.



## SPECIFICATIONS

### TAPE SPEEDS:

7½ and 15 ips, or 3¾ and 7½ ips.

#### Metric Conversion Table

ips	CM/sec
3¾	9.52
7½	19.05
15	38.10

### FREQUENCY RESPONSE:

	OVERALL	
15 ips	±2 db	30-18,000KC
7½ ips	±2 db	40-10,000KC
	+2-4 db	30-15,000KC
3¾ ips	±2 db	50-7,500KC

#### PLAYBACK

15 ips	±1 db	50-10,000KC
	±1½ db	@ 15,000KC
7½ ips	±1 db	50-10,000KC
	±2 db	@ 12,000KC
	+2-3 db	@ 15,000KC
3¾ ips	±1 db	50-5,000KC
	±2 db	@ 7,500KC

### SIGNAL-TO-NOISE RATIO:

Speed	Full Track	2 Track
15 ips	60 db	55 db
7½ ips	60 db	55 db
3¾ ips	55 db	50 db

Peak record level to unweighted noise. Includes bias, erase and playback amplifier noise.

### FLUTTER:

Speed	Percentage
15 ips	below 0.11% rms
7½ ips	below 0.14% rms
3¾ ips	below 0.18% rms

Percentage of total flutter is measured by the methods of American Standard Association Z57.1—1954, in a band 0.5 to 200 cps, while reproducing an Ampex Flutter Test Tape (flutter on test tape less than 0.03%).

### PLAYBACK OUTPUT:

+8 dbm into 600 ohms—restrappable for +4 dbm output, balanced or unbalanced. Maximum of +28 dbm before clipping.

### RECORD INPUT:

100k bridging—20 dbm to produce recommended operating level.

### ELECTRONIC ADJUSTMENTS:

Accessible from front—equalization; reproduce level; record level; reproduce calibration; record calibration; bias adjustment.

### START/STOP:

**Start:** Tape at full speed in less than 1/10 second.  
**Stop:** At 15 ips, tape moves less than 2 inches after pressing stop button.

**PLAYBACK TIMING ACCURACY:** ±0.2% (±3.6 seconds in 30 minutes recording time).

**MOUNTING CONFIGURATIONS:** Portable, Unmounted, Console (electronics above transport).

### TAPE WIDTH:

Standard ¼" tape.

### REEL SIZE:

Up to 10½ inch reels.

### EQUALIZATION:

All standard models supplied with NAB equalization. CCIR curves available on special order.

### REWIND TIME:

Approximately 1 minute for 2400 feet NAB reel; 30 seconds for 1200 ft. EIA reel. (Thin base tapes proportionately longer.)

### POWER REQUIREMENTS:

Single channel models require 2.0 amperes current; two channel models require 2.5 amperes. Standard models are 117 volts. (Universal Series models have built-in multiple tapped power transformer for power input through two ranges; 90 to 130 volts a.c. and 200 to 240 volts a.c.)

### DIMENSIONS/WEIGHT:

Standard 19" wide panels with commercial notching for rack mounting. **Tape transport:** uses 15½ inches of rack space, weight 50 lbs., **Electronics:** 5¼ inches of rack space, weight 19 lbs. (two electronics required for two channel stereo). **Console:** 52" high (to top of electronics), 24¾" wide, 27¼" deep, approximate weight 180 lbs.

### WARRANTY:

Ampex one year warranty.

# AMPEX

**AMPEX CORPORATION**

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